REMARKS

Claims 13-17, 19, 21, 23, and 26-29 are pending in the application. Claims 13-17, 19, 21, 23, and 26-29 are rejected under 35 USC 102(b) as being anticipated by Hedengren et al. (US 5,389,876).

Claims 28 and 29 are canceled herein. New claim 31 is supported in paragraph 28 of Applicants' specification. New claim 32 is supported in paragraphs 32 and 35. Claims 14 and 26 are amended as supported in paragraphs 32 and 35. Claims 13-17, 19, 21, 23, 26-27, and 31-32 are presented for examination.

Response to rejections under 35 USC 102 (b)

An aspect of the rejected claims of the present invention is an eddy current measuring device that flexibly conforms to a curved surface of a test body, provides ferromagnetic amplification via a rear ferromagnetic layer, and may have a geometric or curved front surface that fits a specific test surface. A further aspect of the invention is the use of a flexible electrical probe to produce a rigid probe.

In determining how to correlate Hedengren's FIG 2c with Applicants' invention, the order of Hedengren's layers 11 and 19 from the test body must be determined. In Hedengren FIG 8d, layer 19 is the front layer 83 (nearest the test body), and layer 20 is further back. In Hedengren FIG 6c, the layers are ordered 11, 19, 20. The front layer is not specified, but layer 11 should be considered as the front layer in order to maintain layers 19 and 20 in the same relative order from the test body as in FIG 8d. Finally, layer 11 of FIG 2c should also be considered the front layer for consistency with FIG 6c. This makes layer 19 of Hedengren FIG 2c the rear layer. However it is a dielectric layer (col. 6, line 49), not a ferrite layer as in Applicant's rear layer. Therefore, the present 102(b) rejection does not hold.

Examiner seems to consider Hedengren's layer 19 as the front layer, thus correlating it with Applicant's base, and correlating Hedengren's substrate 11 with Applicants' rear layer. This is not consistent with the above facts in Hedengren. Furthermore, a drawing of a test probe is usually oriented for operating on a test surface below the probe. For example, see Hedengren FIG 8d, in which the sensing surface 83 is designated as the lower surface. For the

above reasons Applicant feels the Examiner has reversed the layers of Hedengren's FIG 2c for the rejection, contrary to the teaching of Hedengren.

New claims 31 and 32 recite a method of producing a rigid probe from a flexible probe. This aspect of the invention is described in paragraph 36 of the specification, and is in the title. This claimed method differs from Hedengren's method of producing the rigid conforming probe of FIG 9 (col. 11, lines 14-37). Hedengren first makes a conforming form 90, and then attaches a two dimensional flexible probe array 76 to the form with adhesive. In contrast, Applicants first make a plastically deformable flexible probe 1 (FIG 3), then match it to the test body 10, then cure the ferrite powder encapsulation compound 34. Applicants' method allows more accurate fitting of the probe to the test body in a plastic stage, avoids the need for a separate mold to produce a conforming form, and reduces the number of steps. Thus, it is a substantial and improvement over Hedengren's method for producing conforming probes for shapes such as shown in Applicants' FIG 3.

Dependent claims 14, 26, and new dependent 32 include ranges not found in Hedengren. These ranges are supported in Applicant's paragraphs 32 and 35. Hedengren does not teach this combination of ranges. For example, in Hedengren col. 9, lines 22-23: "Thicknesses of the metallization layers are approximately 0.2 mils." The unit "mil" is ambiguous, since it sometimes means thousandths of an inch, but sometimes it means "millimeter", and Hedengren uses metric units elsewhere. Assuming 0.2 mils means 0.0002 inch, it converts to 5.08 microns. This teaches away from Applicants' claimed coil thickness of about 17 microns, which provides a different tradeoff between flexibility, miniaturization, and conductive capacity, and is thus a distinction over Hedengren.

At the end of each of sections 3, 4, and 5 of the Office Action, the Examiner asserts that Hedengren FIG 9 shows a flexible stack of layers that remains sufficiently flexible to allow the stack to be variably matched to radii of curvature on a surface of the test body. However, FIG 9 shows a sensing layer 76 affixed to a Christmas tree shaped ferrite core 90, which is not described as flexible.

Conclusion

For anticipation under 35 U.S.C. 102, a reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present (MPEP 706.02(a) IV). The identical invention must be shown in as complete detail as recited in the claim, and the elements must be arranged as required by the claim (MPEP §2131). These criteria are not met by Hedengren, as argued above. Accordingly, Applicants respectfully request reconsideration and withdrawal of the 35 USC 102 rejections, and allowance of the present claims.

The Commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

Dated: 2/20/08

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